Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. **(Currently Amended)** A method for separating magnetic material from non-magnetic material, the method comprising:

providing a container, wherein the container extends along an axis from a lower region to an upper region;

directing a slurry into the container through a slurry inlet, wherein the slurry comprises magnetic material and non-magnetic material;

using at least a medium to separate the magnetic material from the non-magnetic material, wherein a portion of the magnetic material is transported with non-magnetic material along a path by at least the medium toward an overflow outlet, wherein the overflow outlet is located proximate the upper region; ~~and~~

positioning a magnetic grid defining a plurality of openings in the path of the transported magnetic material, wherein the magnetic grid prevents at least a portion of the transported magnetic material from passing through the plurality of openings to the overflow outlet; and

discharging separated magnetic material via an underflow outlet located proximate the lower region of the container during separation of magnetic material from the non-magnetic material.

2. **(Currently Amended)** The method according to claim 1, ~~wherein the container extends along an axis from a lower region to an upper region, wherein the upper region is located proximate the overflow outlet, and further~~ wherein the magnetic grid is positioned orthogonal to the axis.

3. **(Currently Amended)** ~~The method according to claim 1~~ A method for separating magnetic material from non-magnetic material, the method comprising:

providing a container;

directing a slurry into the container through a slurry inlet, wherein the slurry comprises magnetic material and non-magnetic material;

using at least a medium to separate the magnetic material from the non-magnetic material, wherein a portion of the magnetic material is transported with non-magnetic material along a path by at least the medium toward an overflow outlet; and

positioning a magnetic grid defining a plurality of openings in the path of the transported magnetic material, wherein the magnetic grid prevents at least a portion of the transported magnetic material from passing through the plurality of openings to the overflow outlet, wherein the magnetic grid comprises a permanently magnetized grid.

4. **(Original)** The method according to claim 1, wherein the magnetic grid generates a magnetic field within each opening of the plurality of openings, and further wherein the magnetic field within each opening of the plurality of openings is of a strength to prevent at least a portion of the transported magnetic material from entering the overflow outlet.

5. **(Original)** The method according to claim 1, wherein the magnetic grid comprises one or more layers of magnetic sheet strips defining the plurality of openings.

6. **(Original)** The method according to claim 5, wherein the method further comprises controlling the magnetic field in each opening of the plurality of openings by increasing or decreasing the number of layers of magnetic sheet strips of the magnetic grid.

7. **(Original)** The method according to claim 1, wherein each opening of the plurality of openings in the magnetic grid comprises a rectangular shape.

8. **(Original)** The method according to claim 7, wherein each opening of the plurality of openings in the magnetic grid comprises a square shape.

9. **(Original)** The method according to claim 1, wherein the method further comprises coating at least a portion of the magnetic grid with a portion of the transported magnetic material.

10. **(Original)** The method according to claim 1, wherein the magnetic material comprises a plurality of magnetite particles, wherein the magnetic grid prevents at least a portion of the magnetite particles from entering the overflow outlet, and further wherein at least a portion of the plurality of magnetite particles prevented from entering the overflow outlet comprises a particle diameter that is less than or equal to 25 μm.

11. **(Currently Amended)** ~~The method according to claim 1~~ A method for separating magnetic material from non-magnetic material, the method comprising:

providing a container, wherein at least the container is a component of a hydroseparator system, wherein the container extends along an axis from a lower region to an upper region;

directing a slurry into the container through a slurry inlet, wherein the slurry comprises magnetic material and non-magnetic material;

using at least a medium to separate the magnetic material from the non-magnetic material, wherein a portion of the magnetic material is transported with non-magnetic material along a path by at least the medium toward an overflow outlet; and

positioning a magnetic grid defining a plurality of openings in the path of the transported magnetic material, wherein the magnetic grid prevents at least a portion of the transported magnetic material from passing through the plurality of openings to the overflow outlet, wherein the overflow outlet is located proximate the upper region, wherein the hydroseparator system further comprises an underflow outlet located proximate the lower region of the container for discharging separated magnetic material, and further wherein using the medium to separate the

magnetic material from the non-magnetic material comprises using at least a liquid as the medium to separate the magnetic material from the non-magnetic material.

12. **(Original)** The method according to claim 11, wherein positioning the magnetic grid further comprises positioning the magnetic grid within the slurry in the container.

13. **(Original)** The method according to claim 1, wherein the medium comprises at least one of a gas or a liquid.

14. **(Original)** The method according to claim 1, wherein the method further comprises mixing the slurry with the medium before the slurry is directed into the container.

15. **(Original)** The method according to claim 1, wherein the method further comprises:

providing an external magnetizing coil; and

directing the slurry through the external magnetizing coil before the slurry is directed into the container.

16. **(Currently Amended)** ~~The method according to claim 1~~ A method for separating magnetic material from non-magnetic material, the method comprising:

providing a container, wherein at least the container is a component of a flotation system, wherein the container extends along an axis from a lower region to an upper region;

directing a slurry into the container through a slurry inlet, wherein the slurry comprises magnetic material and non-magnetic material;

using at least a medium to separate the magnetic material from the non-magnetic material, wherein a portion of the magnetic material is transported with non-magnetic material along a path by at least the medium toward an overflow outlet; and

positioning a magnetic grid defining a plurality of openings in the path of the transported magnetic material, wherein the magnetic grid prevents at least a portion of the transported

magnetic material from passing through the plurality of openings to the overflow outlet, wherein the overflow outlet is located proximate the upper region, and wherein the flotation system further comprises an underflow outlet located proximate the lower region of the container for discharging separated magnetic material, and further wherein using the medium to separate the magnetic material from the non-magnetic material comprises using a gas as the medium to separate the magnetic material from the non-magnetic material.

17. **(Original)** The method according to claim 16, wherein the method further comprises bubbling the gas to generate a plurality of bubbles, wherein the portion of magnetic material and at least a portion of non-magnetic material is transported toward the upper region of the container by the plurality of bubbles.

18. **(Original)** The method according to claim 17, wherein bubbling the gas generates a froth proximate the upper region of the container, and further wherein the froth defines a boundary with the slurry in the container, wherein positioning the magnetic grid further comprises positioning the magnetic grid proximate the boundary.

19-44 **(Cancelled)**

45. **(New)** The method according to claim 3, wherein the container extends along an axis from a lower region to an upper region, wherein the upper region is located proximate the overflow outlet, and further wherein the magnetic grid is positioned orthogonal to the axis.

46. **(New)** The method according to claim 3, wherein the magnetic grid generates a magnetic field within each opening of the plurality of openings, and further wherein the magnetic field within each opening of the plurality of openings is of a strength to prevent at least a portion of the transported magnetic material from entering the overflow outlet.

47. (New) The method according to claim 3, wherein the magnetic grid comprises one or more layers of magnetic sheet strips defining the plurality of openings.

48. (New) The method according to claim 3, wherein each opening of the plurality of openings in the magnetic grid comprises a rectangular shape.

49. (New) The method according to claim 3, wherein the method further comprises coating at least a portion of the magnetic grid with a portion of the transported magnetic material.

50. (New) The method according to claim 3, wherein the magnetic material comprises a plurality of magnetite particles, wherein the magnetic grid prevents at least a portion of the magnetite particles from entering the overflow outlet, and further wherein at least a portion of the plurality of magnetite particles prevented from entering the overflow outlet comprises a particle diameter that is less than or equal to 25 μm.

51. (New) The method according to claim 3, wherein the medium comprises at least one of a gas or a liquid.

52. (New) The method according to claim 3, wherein the method further comprises mixing the slurry with the medium before the slurry is directed into the container.

53. (New) The method according to claim 11, wherein the magnetic grid is positioned orthogonal to the axis.

54. (New) The method according to claim 11, wherein the magnetic grid comprises a permanently magnetized grid.

55. (New) The method according to claim 11, wherein the magnetic grid generates a magnetic field within each opening of the plurality of openings, and further wherein the magnetic field within each opening of the plurality of openings is of a strength to prevent at least a portion of the transported magnetic material from entering the overflow outlet.

56. (New) The method according to claim 11, wherein the magnetic grid comprises one or more layers of magnetic sheet strips defining the plurality of openings.

57. (New) The method according to claim 11, wherein each opening of the plurality of openings in the magnetic grid comprises a rectangular shape.

58. (New) The method according to claim 11, wherein the method further comprises coating at least a portion of the magnetic grid with a portion of the transported magnetic material.

59. (New) The method according to claim 11, wherein the magnetic material comprises a plurality of magnetite particles, wherein the magnetic grid prevents at least a portion of the magnetite particles from entering the overflow outlet, and further wherein at least a portion of the plurality of magnetite particles prevented from entering the overflow outlet comprises a particle diameter that is less than or equal to 25 μm.

60. (New) The method according to claim 11, wherein the medium comprises at least one of a gas or a liquid.

61. (New) The method according to claim 11, wherein the method further comprises mixing the slurry with the medium before the slurry is directed into the container.

62. (New) The method according to claim 16, wherein the magnetic grid is positioned orthogonal to the axis.

63. (New) The method according to claim 16, wherein the magnetic grid comprises a permanently magnetized grid.

64. (New) The method according to claim 16, wherein the magnetic grid generates a magnetic field within each opening of the plurality of openings, and further wherein the magnetic field within each opening of the plurality of openings is of a strength to prevent at least a portion of the transported magnetic material from entering the overflow outlet.

65. (New) The method according to claim 16, wherein the magnetic grid comprises one or more layers of magnetic sheet strips defining the plurality of openings.

66. (New) The method according to claim 16, wherein each opening of the plurality of openings in the magnetic grid comprises a rectangular shape.

67. (New) The method according to claim 16, wherein the method further comprises coating at least a portion of the magnetic grid with a portion of the transported magnetic material.

68. (New) The method according to claim 16, wherein the magnetic material comprises a plurality of magnetite particles, wherein the magnetic grid prevents at least a portion of the magnetite particles from entering the overflow outlet, and further wherein at least a portion of the plurality of magnetite particles prevented from entering the overflow outlet comprises a particle diameter that is less than or equal to 25 μm.